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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,168	01/31/2002	Akiya Nakayama	03500.016147	6523
5514	7590	04/28/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			NGUYEN, KHIEM D	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2823	
DATE MAILED: 04/28/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/059,168	Applicant(s) NAKAYMA ET AL.	
	Examiner Khiem D Nguyen	Art Unit 2823	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on \_\_\_\_.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-14 is/are rejected.

7) ☐ Claim(s) \_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 31 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>092602</u> .	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakagawa et al. (U.S. Patent 5,453,135).

In re claim 1, Nakagawa discloses a process for forming on a substrate (**FIG. 2: 201**) a transparent conductive film (**FIG. 2: 204**) having crystallizability, the process comprising: a first step of forming a film (**FIG. 2: 205**) at a first film formation rate (col. 21, lines 42-60); and a second step forming a film (**FIG. 2: 206**) at a second film formation rate (col. 21, line 60 to col. 22, line 8); the relationship between film formation rates in the respective steps satisfying:  $2 \leq (\text{second film formation rate})/(\text{first film formation rate}) \leq 100$  (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-10(B)**).

In re claim 2, Nakagawa discloses wherein, in the first step, nuclei are formed on the substrate (**FIG. 2: 201**), and, in the second step, a transparent conductive film (**FIG. 2: 204**) is so formed as to cover the substrate surface and the surfaces of the nuclei over their whole area (col. 20, line 54 to col. 22, line 37 and **FIGS. 1-2**).

In re claim 3, Nakagawa discloses wherein, in the first step, the film is formed in a thickness of 200 Angstroms (20 nm) (col. 8, lines 50-64 and **FIGS. 1-2**).

In re claims 4 and 5, Nakagawa discloses wherein, in the second step, the film is formed in a thickness of 2000 Angstroms (02.  $\mu\text{m}$ ) (col. 8, lines 50-64 and **FIGS. 1-2**).

In re claim 6, Nakagawa discloses wherein, in the first step, the first step is carried out such that the average distance between the apexes of hills themselves of the transparent conductive film formed in the first step and the average distance between the apexes of hills of the transparent conductive film formed in the first step and the substrate surface are in a ratio of from 1: 3 to 4: 1 (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-2**).

In re claim 7, Nakagawa discloses wherein the transparent conductive film is formed by a roll-to-roll method in which a continuous substrate is put across rollers and transported therebetween (col. 25, line 31 to col. 26, line 14 and **FIGS. 1-10(B)**).

In re claim 8, Nakagawa discloses wherein the transparent conductive film formation process according to claim 1, which further comprises, after the second step, a third step of forming a transparent conductive film at a third film formation rate, and the relationship between film formation rates in the respective steps satisfies:  $2 < (\text{second film formation rate})/(\text{first film formation rate}) \leq 100$ ;  $2 \leq (\text{third film formation rate}) / (\text{first film formation rate}) < 100$ ; and  $(\text{second film formation rate}) > (\text{third film formation rate})$  (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-10(B)**).

In re claim 9, Nakagawa discloses wherein in the third step, the film is formed in a thickness of 100 Angstroms (0.01 $\mu\text{m}$ ) (col. 8, lines 50-64 and **FIGS. 1-2**).

In re claim 10, Nakagawa discloses wherein the transparent conductive film is formed by sputtering (col. 25, line 31 to col. 26, line 14 and **FIGS. 1-10(B)**).

In re claim 11, Nakagawa discloses wherein, in the second step, a target having been subjected to pre-sputtering is used (col. 25, line 31 to col. 26, line 14 and **FIGS. 1-10(B)**).

In re claim 12, Nakagawa discloses wherein a process for producing a photovoltaic device; the process comprising the steps of: forming a transparent conductive film by the process according to claim 1; and forming a semiconductor layer (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-10(B)**).

In re claim 13, Nakagawa discloses wherein a transparent conductive film formed by the process according to claim 1 (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-10(B)**).

In re claim 14, Nakagawa discloses wherein a photovoltaic device comprising a transparent conductive film formed by the process according to claim 1 (col. 21, line 42 to col. 22, line 37 and **FIGS. 1-10(B)**).

### ***Conclusion***

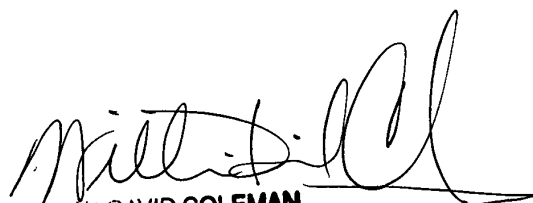
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

Art Unit: 2823

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

K.N.  
April 23, 2004



W. DAVID COLEMAN  
PRIMARY EXAMINER